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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,082	12/21/2001	Chung-Chih Wang		6827

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EXAMINER

SONG, SARAH U

ART UNIT PAPER NUMBER

2874

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,082

Applicant(s)

WANG ET AL.

Examiner

Sarah Song

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 21 December 2001 and 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

Brian Healy
Primary Examiner

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's communication filed on November 26, 2003 has been carefully considered and placed of record in the file. Claims 1, 13 and 20 have been amended. Claims 1-20 are pending. The amended abstract is approved.

Drawings

2. The replacement sheet for Figure 6 was received on November 26, 2003. These drawings are approved.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-3, 5, 9-11, 13, 14, 16 and 18 rejected under 35 U.S.C. 102(e) as being anticipated by Shi et al. (previously relied upon).** Shi et al. discloses a variable optic attenuator comprising: a chassis 204 defining a channel extending in a first direction; an attenuating device movably received in the channel, the attenuating device comprising a filter 110 having a density varying from a low density region to a high density region in a filter moving direction that is substantially parallel to the first direction, and a carrier (lead screw nut) 302 to which the filter 110 is attached; a driving unit comprising an electric stepping motor 116 mechanically coupled to the attenuating device for reciprocally moving the filter 110 in the filter moving direction; a mount 202 attached to

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the chassis, the mount forming first and second primary bores (through which collimators 106 and 114 pass) extending parallel to the first direction and located on opposite sides of the channel, and a passage (recess between reflectors 108 and 112) extending across the channel in second direction perpendicular to the first direction and intersecting the first and second primary bores, the mount forming first and second flat surfaces at the intersection of the passage with the first and second primary bores, the surfaces being 45 degree inclined with respect to the first direction and perpendicular to each other, first and second reflectors (mirrors) 108 and 112 being attached to the first and second flat surfaces of the mount; wherein the filter 110 is located in the passage and thus between the reflectors, the movement of the filter by the driving unit bring different regions of the filter to the passage; and wherein the first and second primary bores are adapted to receive and retain ends of input optic fiber 102 and output optic fiber 104, an optic signal forming a U-shaped optic path between the input optic fiber, the first reflector the filter, the second reflector and the output optic fiber. See Figure 2 and 3.

5. Regarding claim 3, 5 and 14, the coupling between the motor and the carrier 116 and the carrier 302 comprises a threaded shaft or guide rail 304 rotated by the motor and an inner threading or guide groove (inherent) formed in the carrier for slidingly and receivingly engaging a guide rail and also a threading engagement being formed between the threaded shaft and the threading of the carrier (see Paragraph [0027]).

6. Regarding claim 13, the optic module has a wall to which the motor is attached and a through hole being defined in the wall for extension of the threaded shaft of the motor (see Figure 2).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 6, 8, 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al.** Regarding claims 6 and 15, Shi et al. discloses a single platform (base of chassis) but does not specifically disclose plural platforms on opposite sides of the channel for supporting the mount. However, it would have been an obvious matter of design choice to provide platforms, since applicant has not disclosed that the platforms solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with two platforms or more.

9. Regarding claims 8 and 19, Shi discloses the reflectors 108 and 112 to be attached to the flat surfaces of the mount, but does not specifically disclose the reflectors to be attached by adhesives. Adhesives are well known in the art for securely attaching optical elements to structural supports. It would have been obvious to one having ordinary skill in the art to attach the reflectors with an adhesive to provide a low cost means of securing the reflectors to the mount.

10. Regarding claim 17, Shi et al. discloses recesses aligned with each other and respectively located on opposite sides of the channel to provide an unobstructed optical path, but does not specifically disclose first and second secondary bores defined in the mount, aligned with each other, and respectively located on opposite sides of the channel. However, it would have been an obvious matter of design choice to provide bores instead

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of recesses, since applicant has not disclosed that the bores solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with first and second secondary bores to provide an unobstructed optical path.

11. Claims 4, 7, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. in view of Yamamura (previously relied upon). Shi et al., discusses above, additionally discloses a potentiometer 118 and wiper 308 attached to the carrier for indicating the position of the filter and for generating a signal to control the movement of the carrier (Paragraph [0012]) via a stepping motor 116. Shi et al. further discloses that the potentiometer and wiper are equivalent to an electrical resistor and act as a linear variable resistor (Paragraph [0028]). Shi et al. does not disclose the specifics of a variable resistor. Yamamura discloses a variable resistor having a conductive slider member (wiper) 11 attached to a movable member 10. The conductive slider 11 is a spring arm physically engaging the variable resistor 12 to generate a feedback signal. Therefore, because these two position indicators were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the variable resistor of Yamamura for the potentiometer of Shi et al.

12. Regarding claim 20, Shi et al. discloses collimators 106 and 114 but does not disclose the end face proximate the reflectors to be hidden in the mount 202. Mounting structures that “hide” the end face of collimators and lenses are well known in the art for protecting the light receiving/emitting faces of the lenses from being damaged during assembly, repair or throughout the operational life of the device. Therefore, it would have been obvious to one having ordinary skill in the art to hide the end faces of the collimators of Shi et al. in the mounting structure to minimize the probability of the light

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receiving/emitting faces of the lenses from being damaged (e.g. scratched) during assembly or throughout the operational life of the device. One of ordinary skill in the art would have been motivated to make the modification to preserve the optical integrity of the lenses.

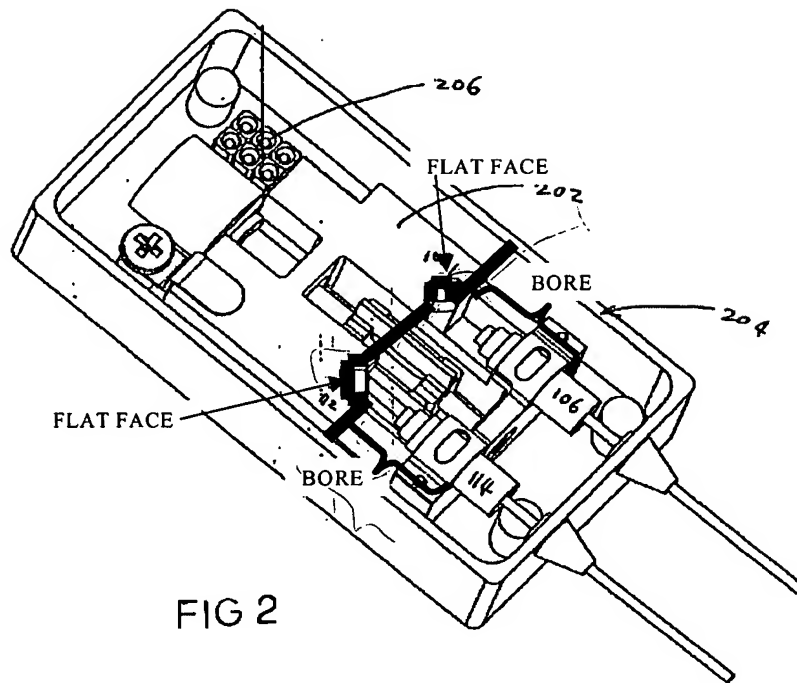
Response to Arguments

13. Applicant's arguments filed November 26, 2003 have been fully considered but they are not persuasive. Applicant states that the passage of Shi et al. does not intersect with the first and second primary bores, and that the first and second flat surfaces are not respectively located at a joint of the passage and the first and second primary bores.

Examiner respectfully disagrees.

14. As indicated in the figure below, the first and second bores are disposed on either side of the mount, extending from the collimators 106 and 114 to reflectors 108 and 112. The passage, the distal side of which is indicated in bold, intersects the bores at the flat faces as noted. Therefore, Shi et al. discloses the claimed limitations.

15. Applicant also states that Shi et al. teaches away from the claimed invention by not mentioning the problem of dirt contamination. Establishing long-felt need requires objective evidence that an art recognized problem existed in the art for a long period of time without solution. Additionally, The failure to solve a long-felt need may be due to factors such as lack of interest or lack of appreciation of an invention's potential or marketability rather than want of technical know-how. *Scully Signal Co. v. Electronics Corp. of America*, 570 F.2d 355, 196 USPQ 657 (1st. Cir. 1977). See MPEP 716.04.



16. Applicant further states that Yamamura and Shi et al. are non-analogous art. Applicant also states that structure and operation of the Yamamura reference is different from that of the present invention. Examiner respectfully disagrees. Shi et al. establishes the equivalence between the potentiometer and wiper system to a resistor/linear variable resistor system. Yamamura is merely relied upon to disclose a known linear variable resistor having the structure as claimed. Therefore, it would have been obvious to one having ordinary skill in the art to modify the potentiometer and wiper with the linear variable resistor system of Yamamura since both are operationally equivalent as taught by Shi et al. Since Shi et al. establishes the equivalence between the potentiometer and wiper system to a resistor/linear variable resistor system, Yamamura, which discloses a linear variable resistor system is deemed relevant art.

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Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning the merits of this communication should be directed to Examiner Sarah Song at telephone number 571-272-2359. Any inquiry of a general or clerical nature, or relating to the status of this application or proceeding should be directed to the receptionist at telephone number 571-272-1562 or to the technical support staff supervisor at telephone number 571-272-1615.


SUS


Brian Healy
Primary Examiner